## REMARKS

This paper is being provided in response to the February 23, 2005 Office Action for the above-referenced application. In this response, Applicants have amended claims 1, and 10 in order to clarify that which Applicants consider to be their invention. Applicants respectfully submit that these changes to the claims are supported by the originally-filed application.

The rejection of claims 1-3, 8-13, 18 and 19 under 35 U.S.C. § 102(e) as being unpatentable over U.S. Patent No. 6,532,215 to Muntz (hereinafter "Muntz") is hereby traversed and reconsideration thereof is respectively requested in view of amendments to the claims provided herein.

Independent claim 1, as amended herein, is directed to a method of classifying a portion of an electrical signal propagating through a conductor. The method is recited as including digitizing the electrical signal to provide a digitized signal, providing a plurality of stored digitized signals, wherein each stored digitized signal corresponds to a digitized electrical signal for one of a number of different possible types of faults for the conductor, comparing the digitized signal to each of the stored digitized signals to determine a score therefore, if the score is less than a predetermined value for a particular one of the stored digitized signals, classifying the portion of the electrical signal as a fault corresponding to the particular one of the stored digitized signals, and if none of the scores are less than the predetermined value, classifying the portion of the electrical

signal as having no fault. Claims 2, 3, 8 and 9 depend, directly or indirectly, from claim 1.

Independent claim 10, as amended herein, is directed to a computer program product that classifies a portion of an electrical signal propagating through a conductor. The computer program is recited as including executable code that digitizes the electrical signal to provide a digitized signal, executable code that compares the digitized signal to each of a plurality of stored digitized signals that corresponds to a digitized electrical signal for one of a number of different possible types of faults for the conductor to determine a score therefore, executable code that classifies the portion of the electrical signal as a fault corresponding to the particular one of the stored digitized signals if the score is less than a predetermined value for a particular one of the stored digitized signals, and executable code that classifies the portion of the electrical signal as having no fault if none of the scores are less than the predetermined value. Claims 11-13, 18 and 19 depend, directly or indirectly, from claim 10.

Muntz teaches digitizing and electrical signal to provide a digitized signal and storing a plurality of characteristic impedances and thresholds that have been found empirically to be associated with the presence of respective fault conditions (see, for example, column 10, lines 6-11). Months for the discloses that the predetermined characteristic impedances and thresholds may be stored in memory in association with classifications of the respective fault conditions with which they are associated.

Applicant respectfully submits that Muntz does not show, teach, or suggest features of the president claimed invention (set forth in independent claims 1 and 10) where each of a plurality of stored digitized signals corresponds to a digitized electrical signal for one of a number of possible types of faults for the conductor. Instead, Muntz discloses storing values for impedances corresponding to fault conditions (e.g., relatively high or low impedance values). This is very different from the present claimed invention, which compares the digitized measured electrical signal with stored digitized electrical signals, each corresponding to different possible types of faults. The impedance thresholds used by Muntz are not generally useful for determining particular types of faults, but rather, simply indicate the presence of some type of fault.

Furthermore, the impedance thresholds used by Muntz are not nearly as sophisticated as Applicant's present claimed invention and could generally lead to a higher rate of both false positives (when an otherwise acceptable signal generates an impedance out of the threshold range of Muntz) and to false negatives (when a fault results in an impedance value that is nonetheless within the acceptable ranges prescribed by Muntz). Thus, Applicant's present claimed invention is both different from the system disclosed by Muntz and is more advantageous than Muntz's system. Accordingly, applicant respectfully requests that this rejection be withdrawn.

The rejection of claims 4-7 and 14-17 under 35 U.S.C. § 103(a) as being unpatentable over Muntz in view of U.S. Patent No. 5,502,392 to Arjavalingam et al.

(hereinafter "Arjavalingam") is hereby traversed and reconsideration thereof is respectively requested in view of amendments to the claims provided herein.

Claims 4-7 and 14-17 depend from claims 1 and 10, respectively, which are discussed above.

Muntz is discussed above. As indicated in the Office Action, Arjavalingam teaches compensating a signal to remove unwanted reflective components.

Applicant respectfully submits that the deficiencies of Muntz with respect to claims 1 and 10, discussed above, are not overcome by the addition of the Arjavalingam reference in that neither Muntz, nor Arjavalingam, nor any combination thereof show, teach, or suggest the recited feature where each stored digitized signal corresponds to a digitized electrical signal for one of a number of different possible types of faults for the conductor. Accordingly, Applicants respectfully request that this rejection be withdrawn.

Based on the above, Applicants respectfully request that the Examiner reconsider and withdraw all outstanding rejections and objections. Favorable consideration and allowance are earnestly solicited. Should there be any questions after reviewing this paper, the Examiner is invited to contact the undersigned at 617-248-4038.

Respectfully submitted,
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